both a positive and negative way). Stabilizing the shoulder will help prevent drop-offs adjacent to the travel lanes.

Crash Application
Adding or widening the graded longitudinal shoulders should be considered for crashes where it appears the width or absence of the shoulder influenced a driver. For example, if the driver crossed the shoulder while exiting the road then this countermeasure may be applicable. Similarly, if an inattentive driver veered off the right edge of pavement and then could not successfully redirect the vehicle into the travel lane, shoulder improvements may be warranted such as stabilization.

b. Pave Existing Graded Shoulder of Suitable Width
Overview
A paved longitudinal shoulder adjacent to the travel lanes will help create a smooth transition between the travel lanes and the side slope adjacent to the road. Paving the shoulder may influence crashes (according to literature in both a positive and negative way). Paving the shoulder will also help prevent drop-offs adjacent to the travel lanes.

Crash Application
Paving the existing graded longitudinal shoulders should be considered for crashes where it appears the shoulder condition or traversability influenced a driver. For example, if the driver crossed the shoulder while exiting the road then this countermeasure may be applicable. Similarly, if an inattentive driver veered off the right edge of pavement and then could not successfully redirect the vehicle into the travel lane, shoulder improvements may be warranted.

c. Widen and Pave Existing Shoulder
Overview
A wide paved longitudinal shoulder adjacent to the travel lanes will help create a smooth transition between the travel lanes and the side slope adjacent to the road. Often on rural roads, a minimal paved shoulder (one to two feet wide) is provided to minimize pavement edge erosion and protect the pavement section of the road. Occasionally there is no shoulder provided (graded or paved) and as a result the road has an unsafe roadside environment. Paving the shoulder may influence crashes (according to literature in both a positive and negative way).

Crash Application
Widening and paving the longitudinal shoulders should be considered for crashes where it appears the shoulder condition or traversability influenced a driver. For example, if the driver crossed the shoulder while exiting the road then this countermeasure may be applicable. Similarly, if an inattentive driver veered off the right edge of pavement and then could not successfully redirect the vehicle into the travel lane, shoulder improvements may be warranted.